

**TIP PROJECT: B-4507**

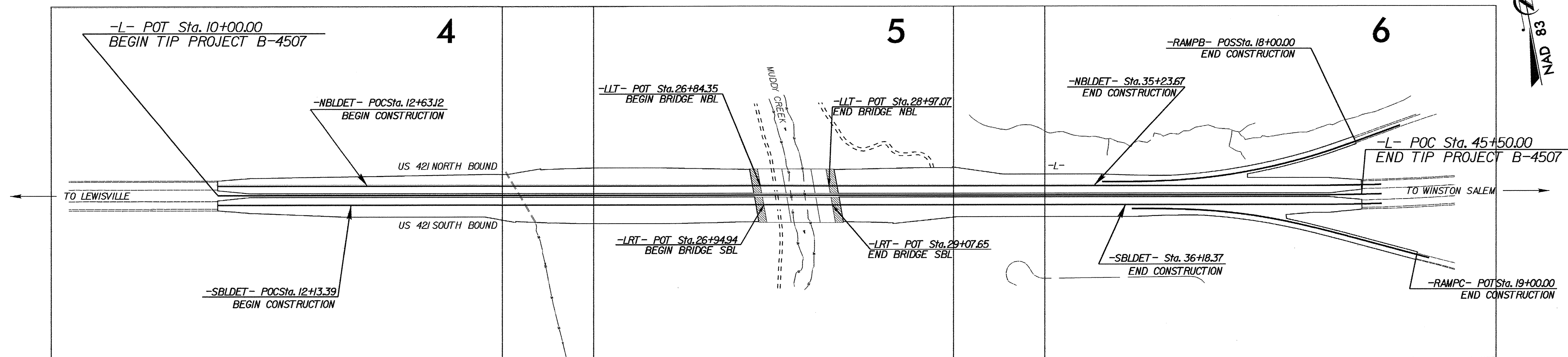
STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS  
 PLAN FOR PROPOSED  
 HIGHWAY EROSION CONTROL  
**FORSYTH COUNTY**

**LOCATION: BRIDGES No. 221 AND No. 222 OVER MUDDY CREEK AND APPROACHES ON US 421**  
**TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURES**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4507	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

**EROSION AND SEDIMENT CONTROL MEASURES**

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	III III III
1622.01	Temporary Berms and Slope Drains	III III III
1630.01	Riser Basin	⊙
	Silt Basin Type B	⊙
1633.01	Temporary Rock Silt Check Type-A	⊗
	Temporary Rock Silt Check Type-B	⊗
	Wattle	▶
1634.01	Temporary Rock Sediment Dam Type-A	⊙
1634.02	Temporary Rock Sediment Dam Type-B	⊙
1635.01	Rock Pipe Inlet Sediment Trap Type-A	⊙
1635.02	Rock Pipe Inlet Sediment Trap Type-B	⊙
1630.04	Stilling Basin	⊙
1630.06	Special Stilling Basin	⊙
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	⊙
	Tiered Skimmer Basin	⊙
	Infiltration Basin	⊙



**THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.**

**GRAPHIC SCALE**

0  
  
 PLANS

0  
  
 PROFILE (HORIZONTAL)

0  
  
 PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT  
 DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA

Prepared In the Office of:  
**ROADSIDE ENVIRONMENTAL UNIT**  
 1 South Wilmington St.  
 Raleigh, NC 27611  
**2006 STANDARD SPECIFICATIONS**

Roadway Standard Drawings

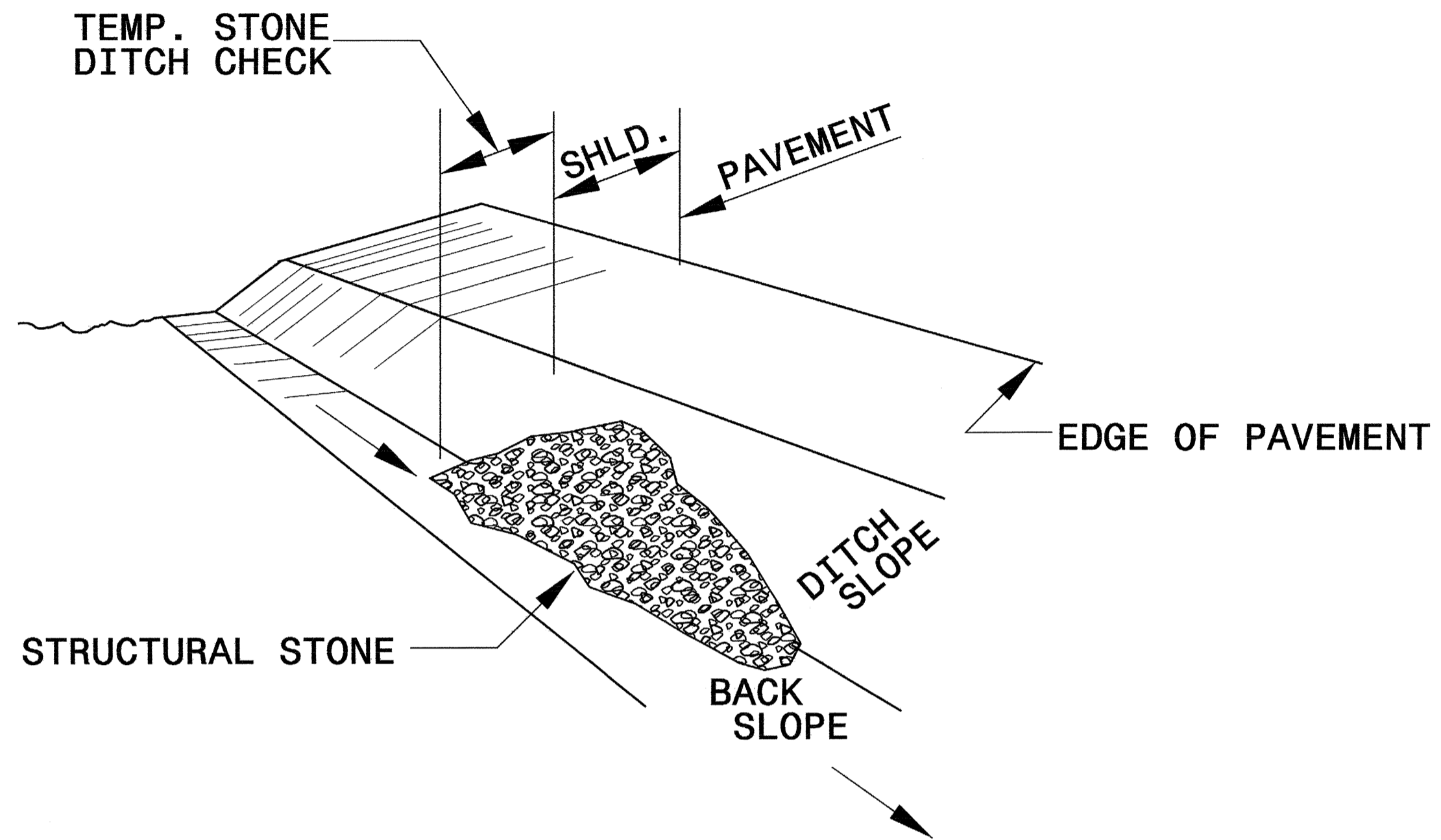
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 18, 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.05 Temporary Diversion	
1630.06 Special Stilling Basin	

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PROJECT REFERENCE NO. B-4507	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

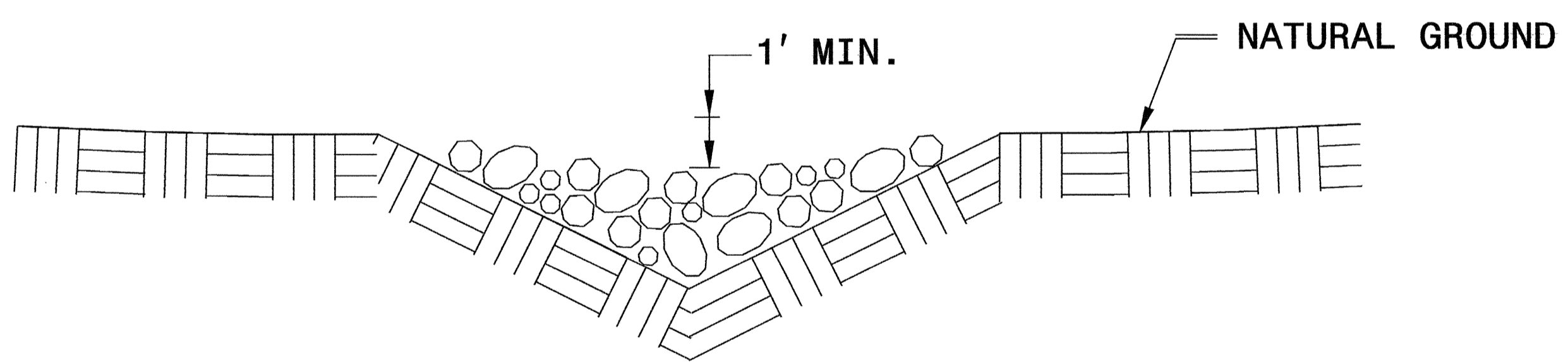


**ISOMETRIC VIEW**

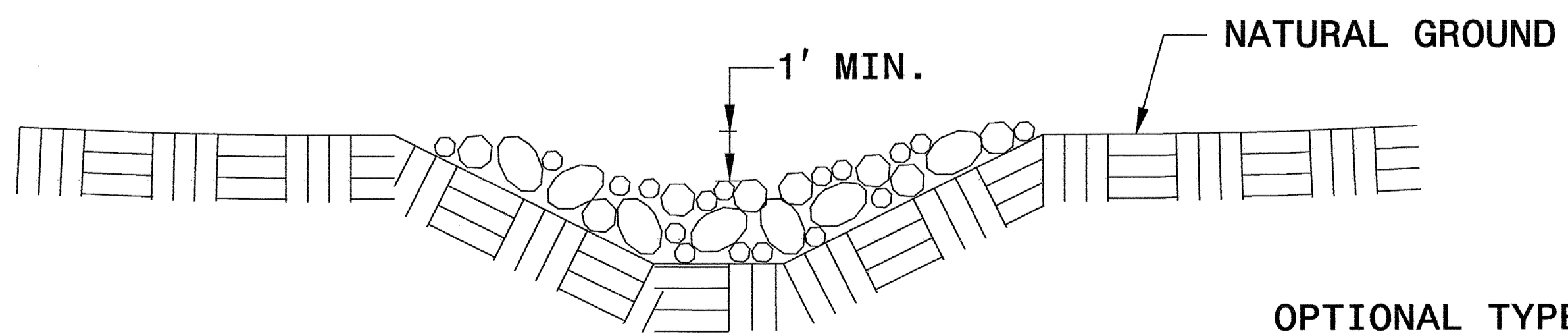
NOTES:

USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.

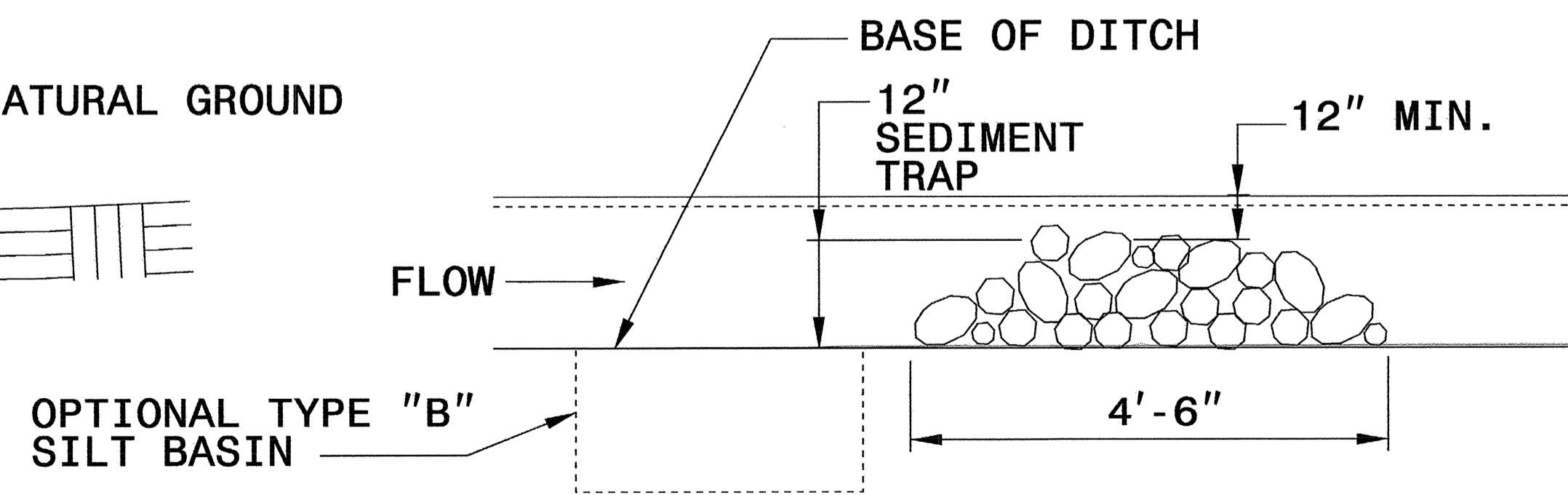
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



**CROSS SECTION VEE DITCH**



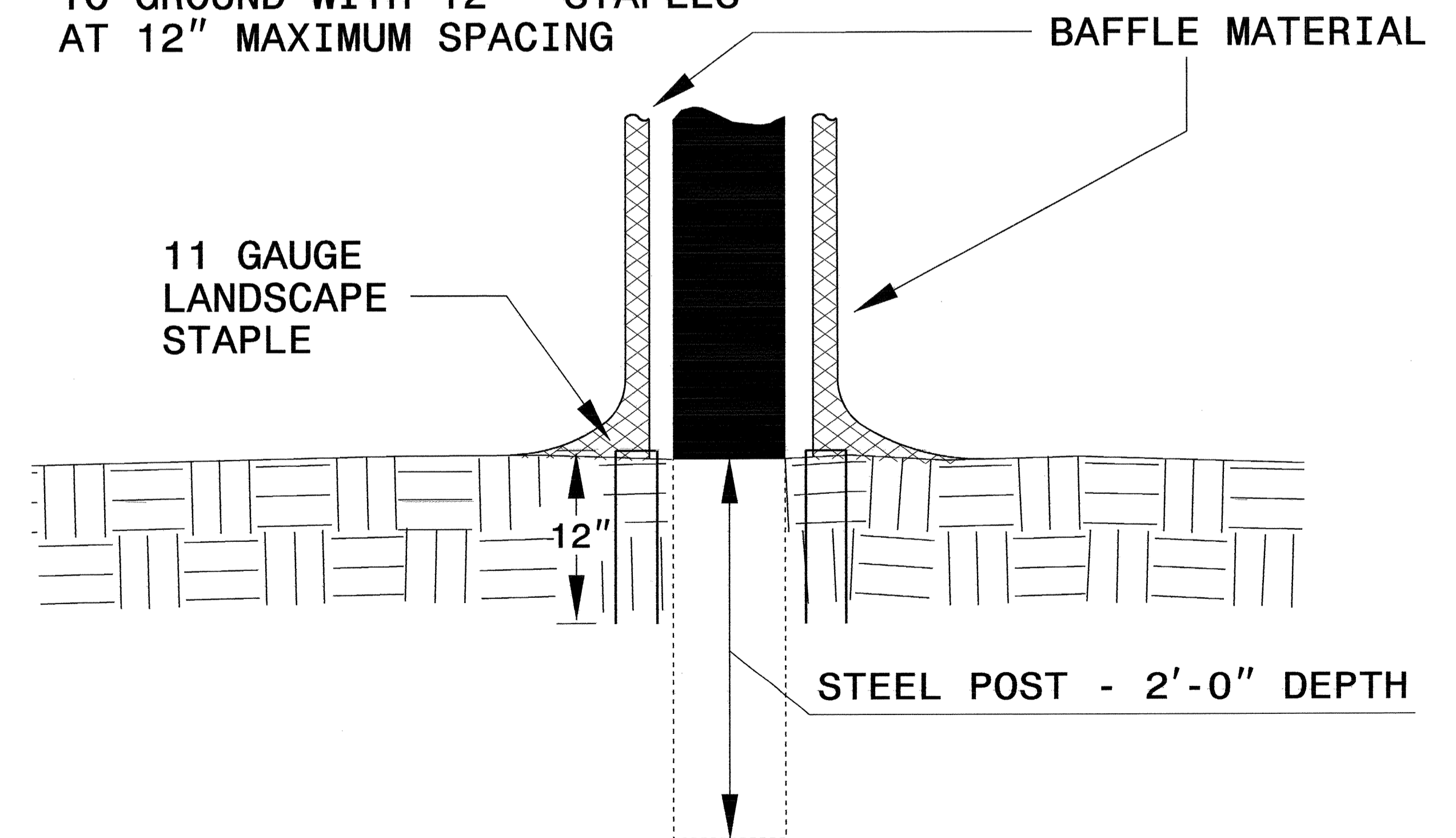
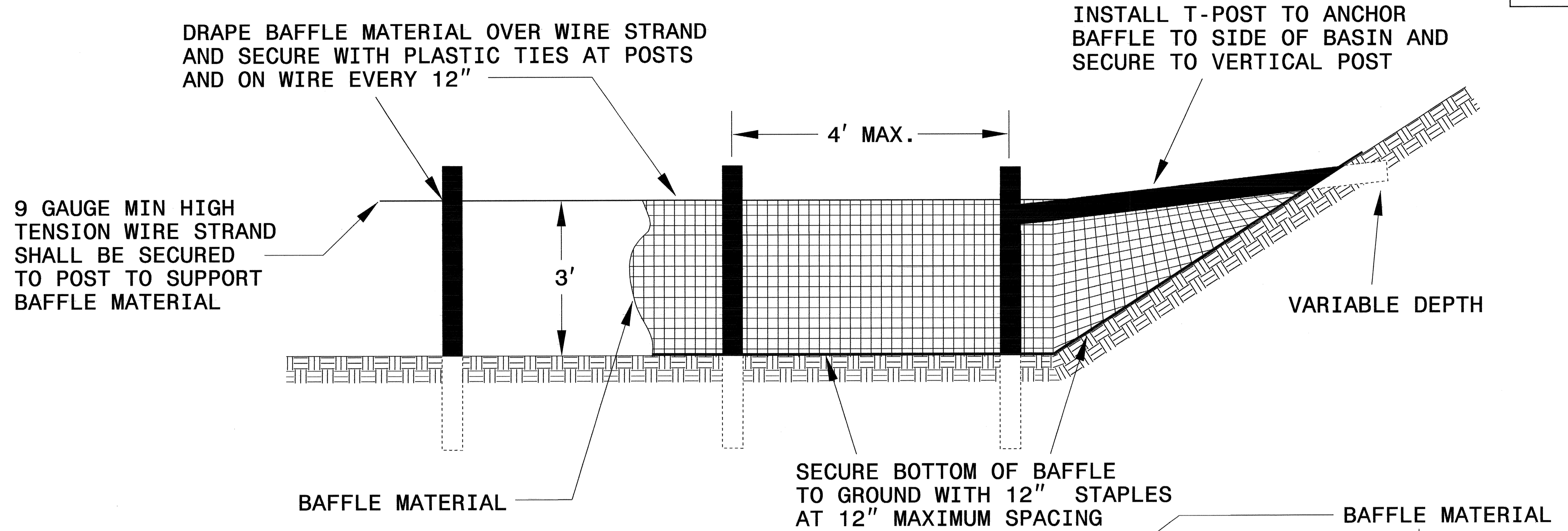
**CROSS SECTION TRAPEZOIDAL DITCH**



**ELEVATION VIEW**

PROJECT REFERENCE NO. B-4507	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# COIR FIBER BAFFLE DETAIL



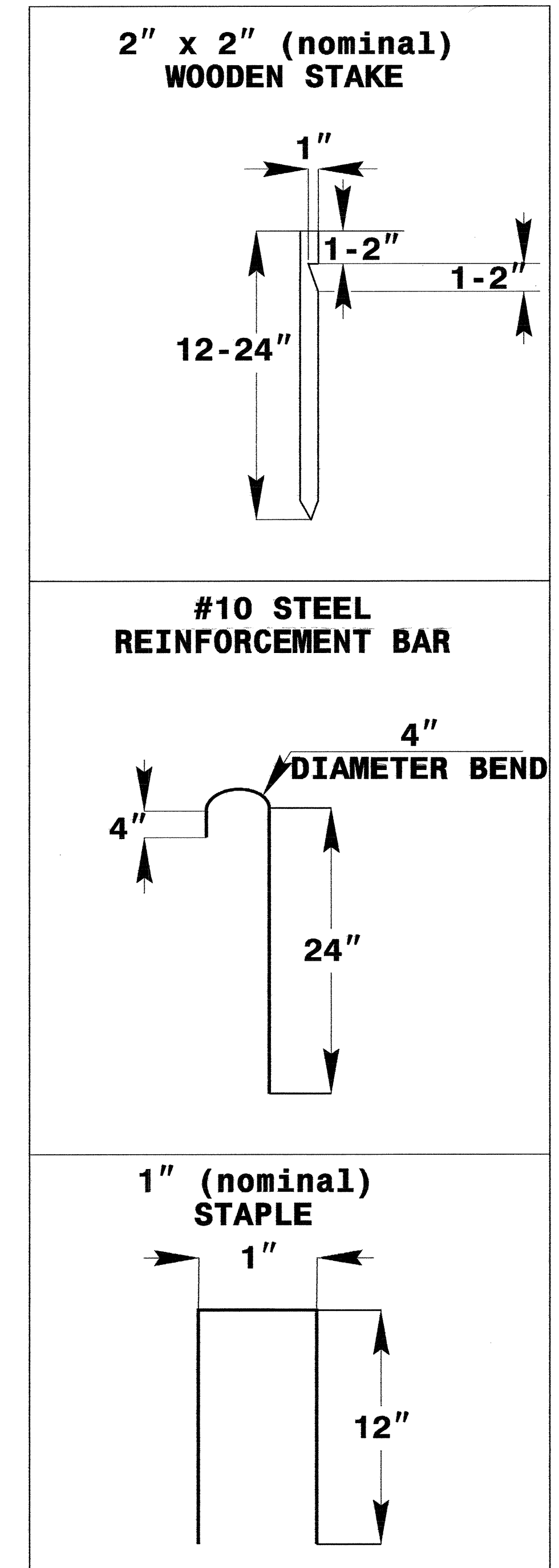
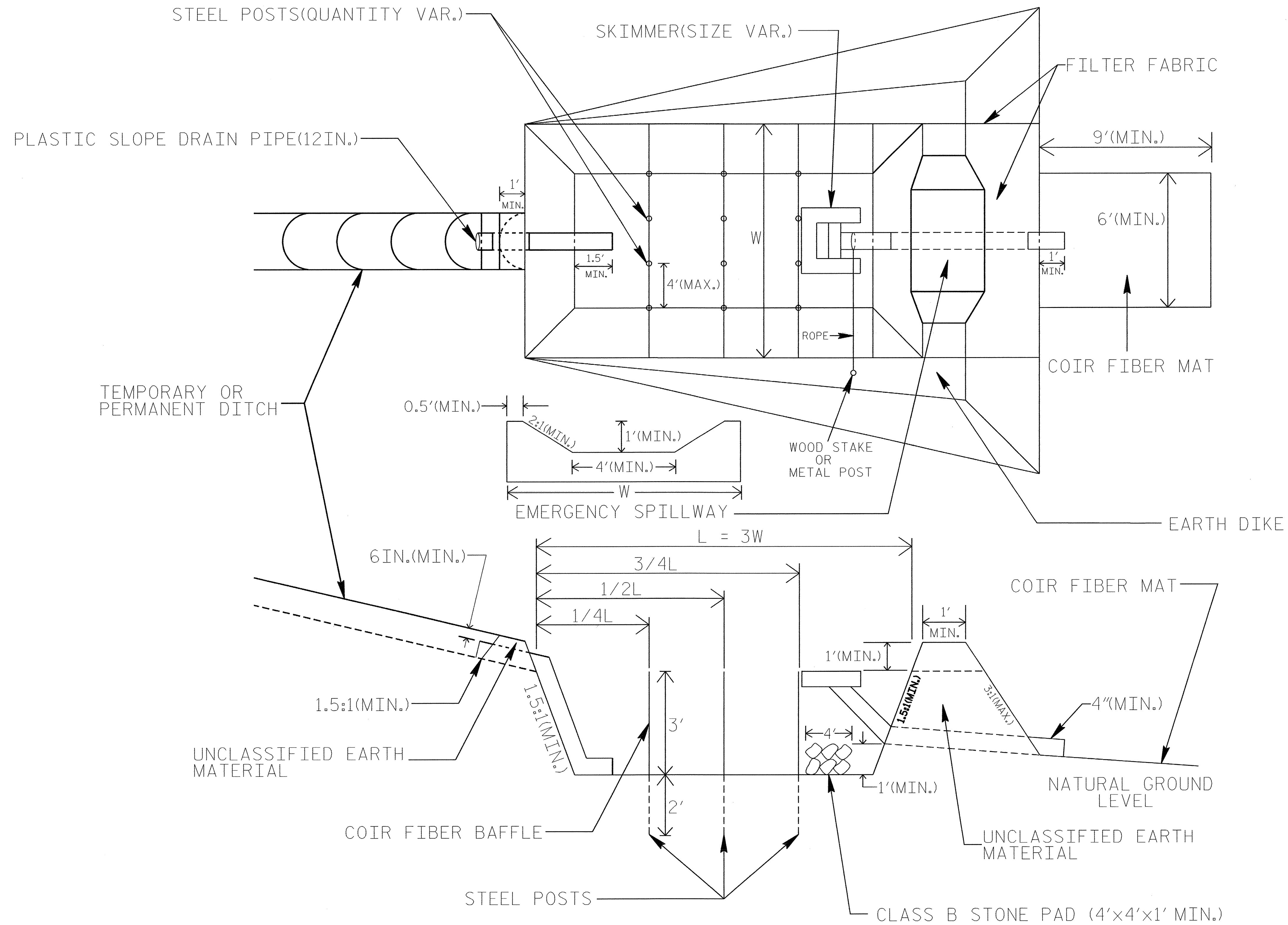
**NOTES:**

1. INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF  $\frac{1}{4}$  THE BASIN LENGTH.
2. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF  $\frac{1}{3}$  THE BASIN LENGTH.
3. TOP HEIGHT OF COIR FIBER BAFFLES SHALL NOT BE BELOW BASE OF EMERGENCY SPILLWAY ELEVATION.

BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12" LANDSCAPE STAPLES

# SKIMMER BASIN WITH BAFFLES DETAIL

PROJECT REFERENCE NO. B-4507	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



## COIR FIBER MAT ANCHOR OPTIONS

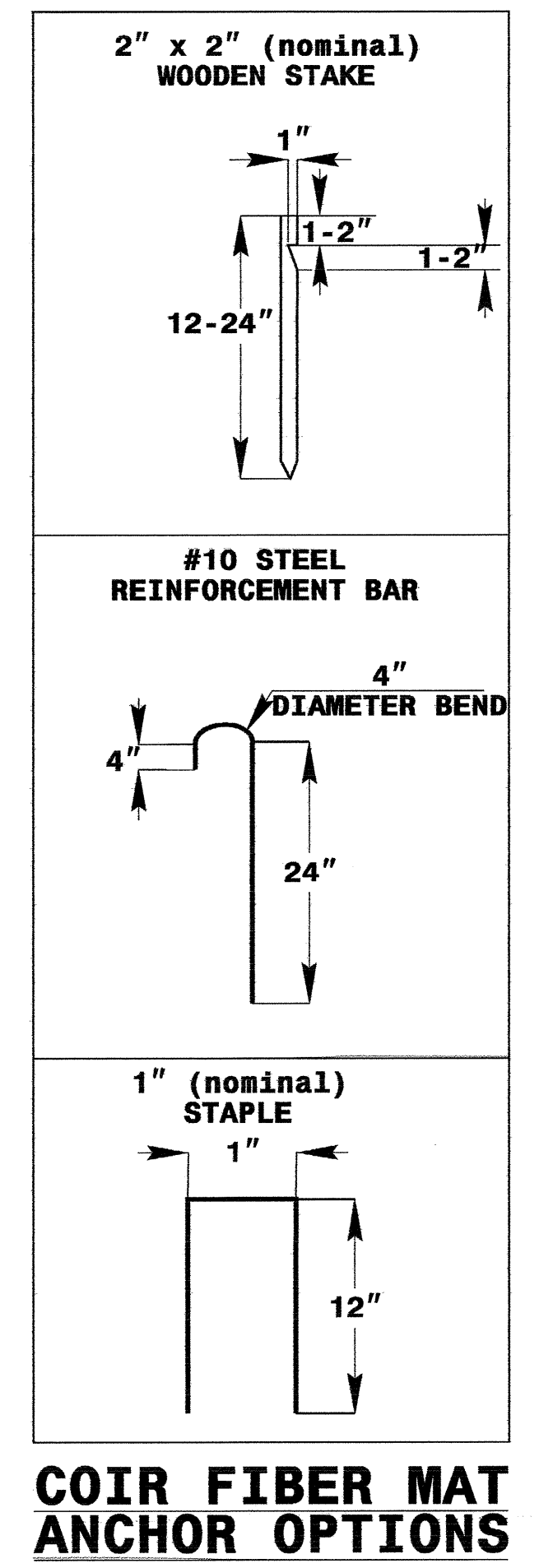
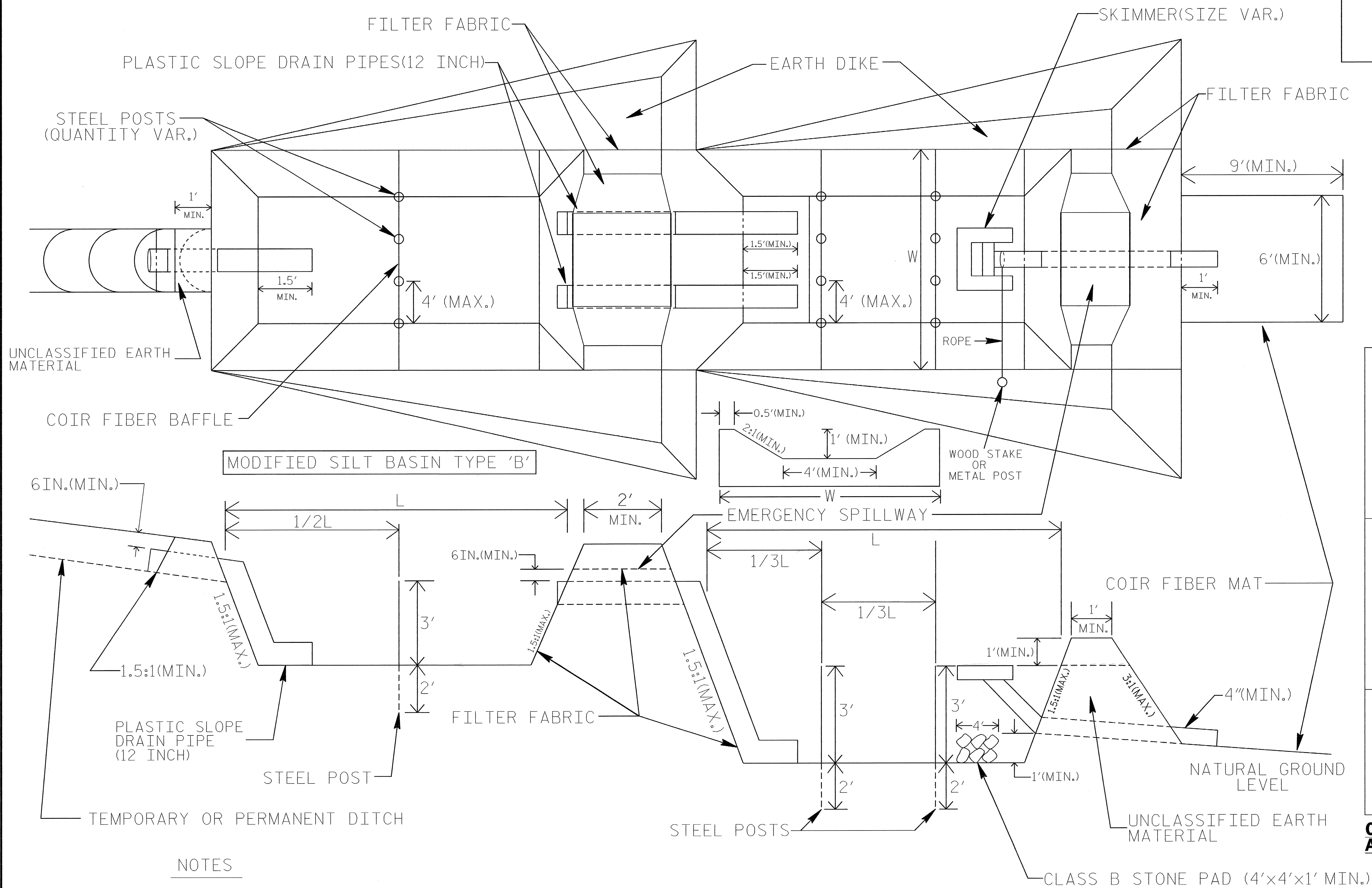
### NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING  $Q/0.8$ , WHERE Q IS FLOW RATE (CFS) INTO BASIN.

NOT TO SCALE

PROJECT REFERENCE NO. B-4507	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# TIERED SKIMMER BASIN DETAIL



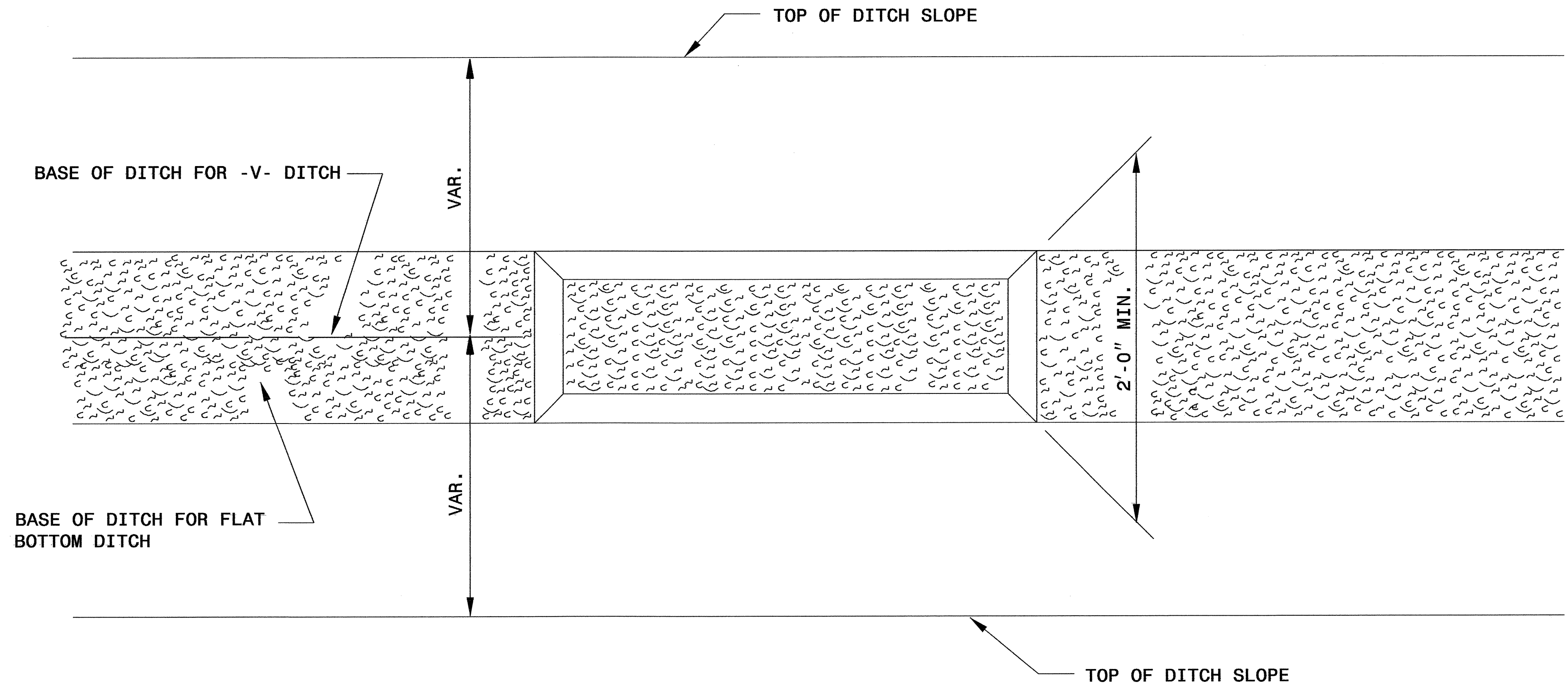
## NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR SIDESLOPES OF BASINS.
2. LIMIT HEIGHT OF EARTH DIKES TO 5 FT.
3. ADDITIONAL MODIFIED SILT BASINS TYPE 'B' MAY BE NEEDED DEPENDING ON SLOPE.
4. THE MINIMUM BASIN WIDTHS SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTHS (FT.) USING  $Q/0.8$ , WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.

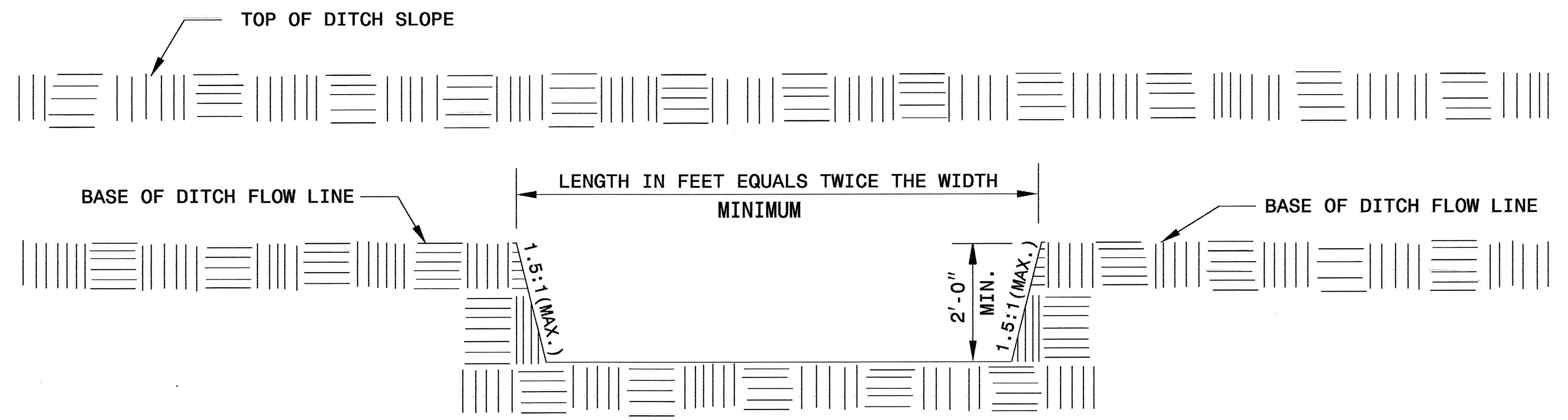
NOT TO SCALE

PROJECT REFERENCE NO. <i>B-4507</i>	SHEET NO. <i>EC-2D</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# SILT BASIN 'B' DETAIL



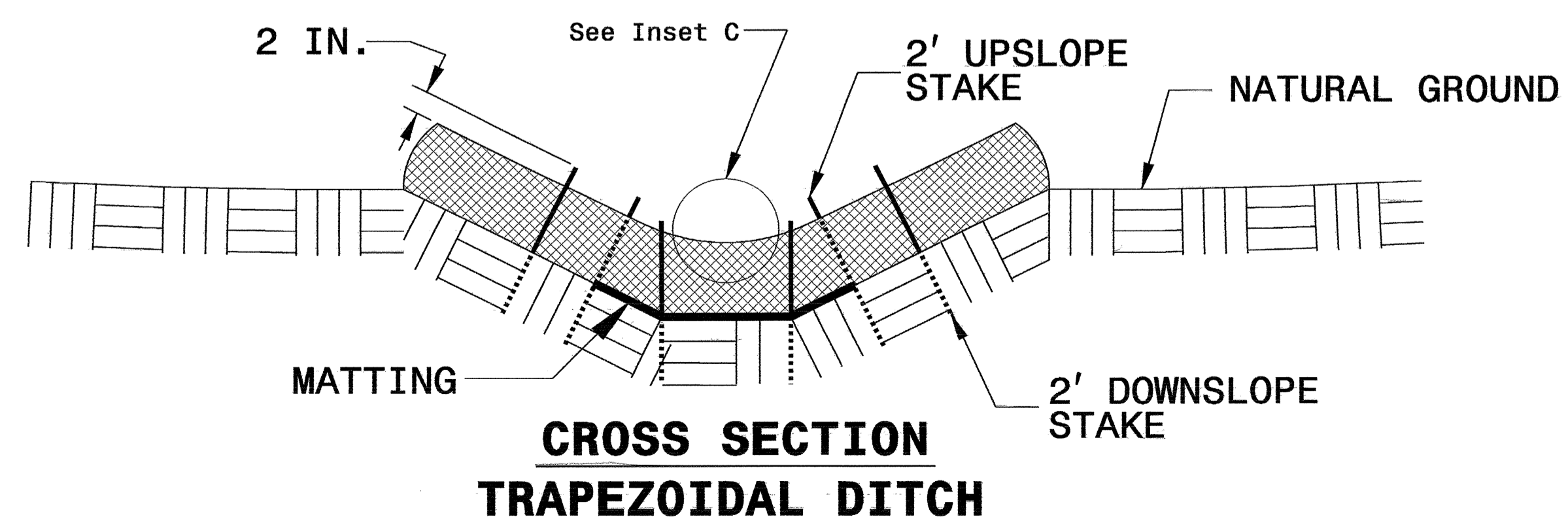
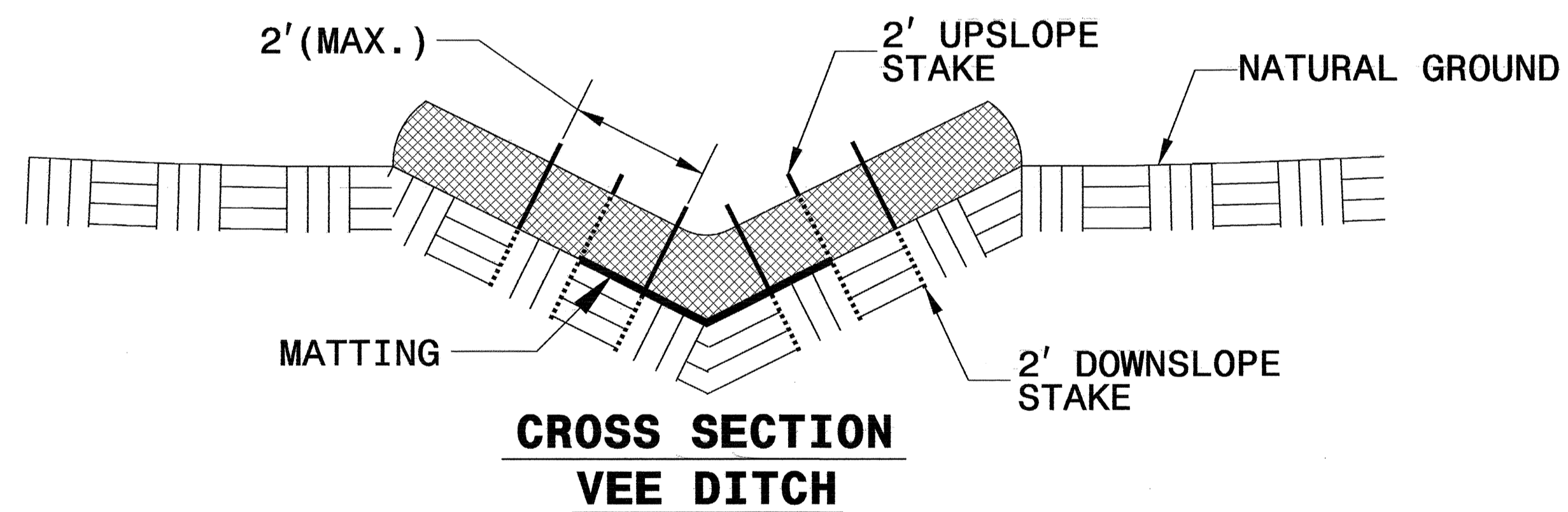
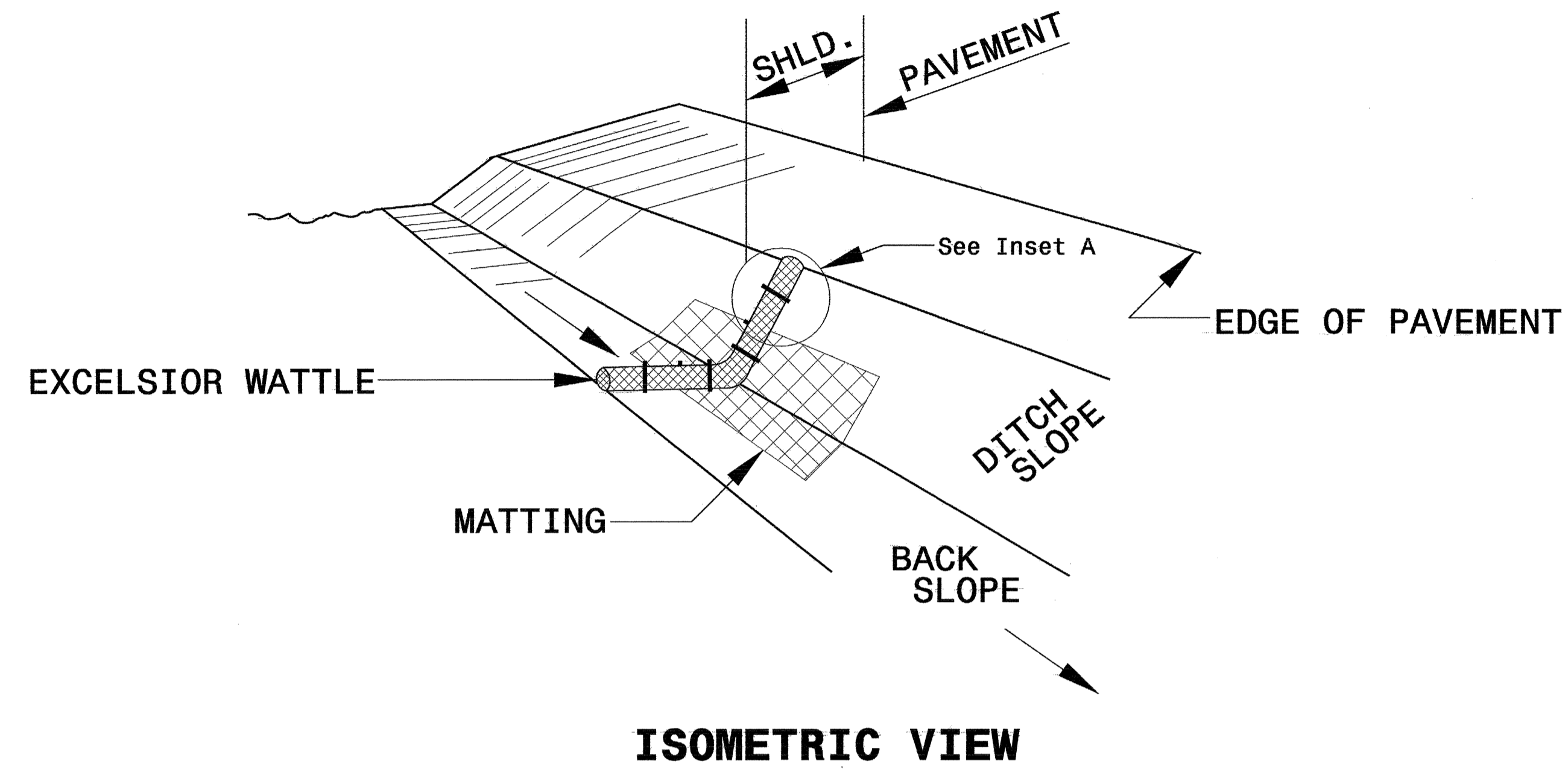
PLAN



ELEVATION

PROJECT REFERENCE NO.		SHEET NO.	
B-4507		EC-2E	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

# WATTLE WITH POLYACRYLAMIDE DETAIL



**NOTES:**

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

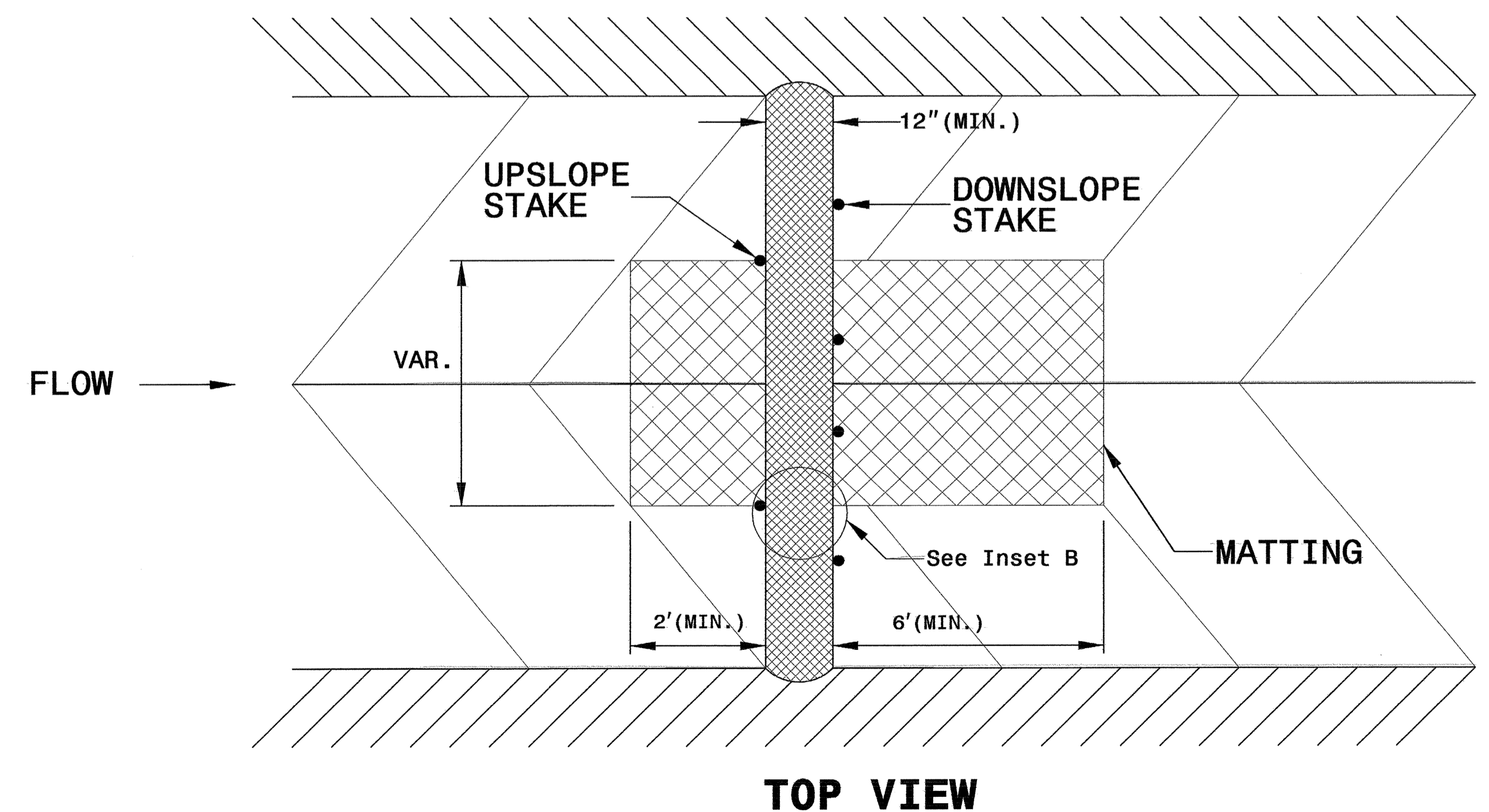
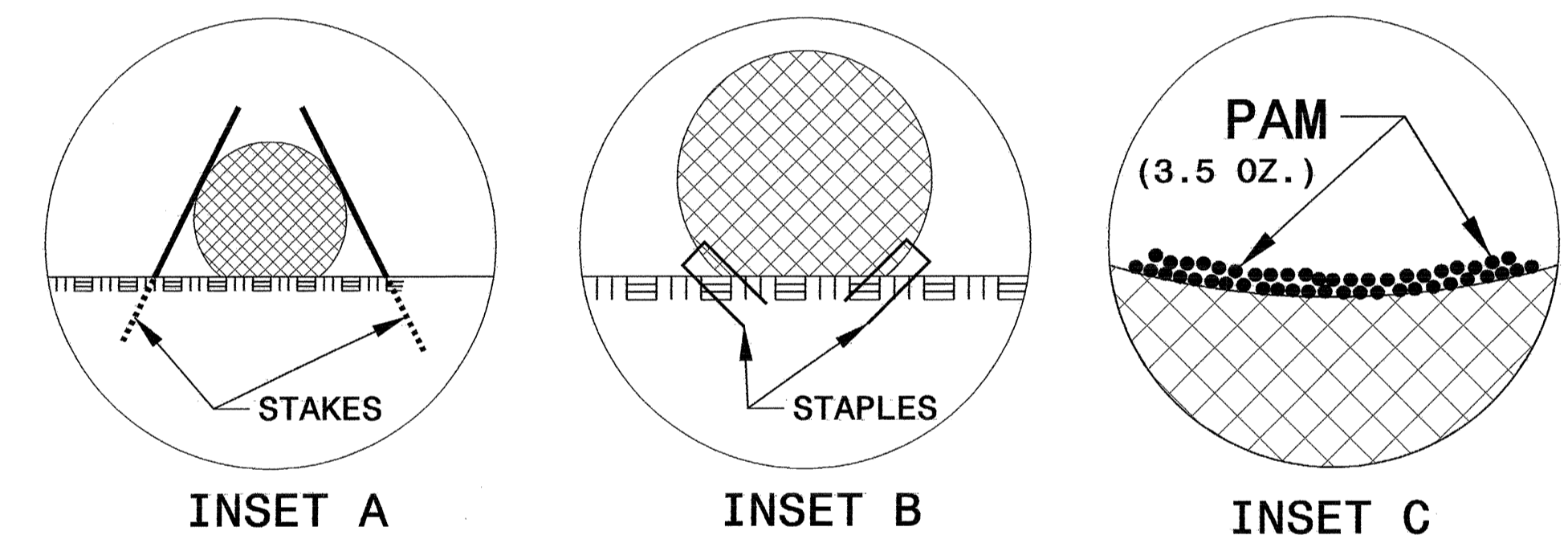
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 3.5 OUNCES OF ANIONIC OR NEUTRALLY CHARGED POLYACRYLAMIDE (PAM) OVER WATTLE WHERE WATER WILL FLOW AND AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



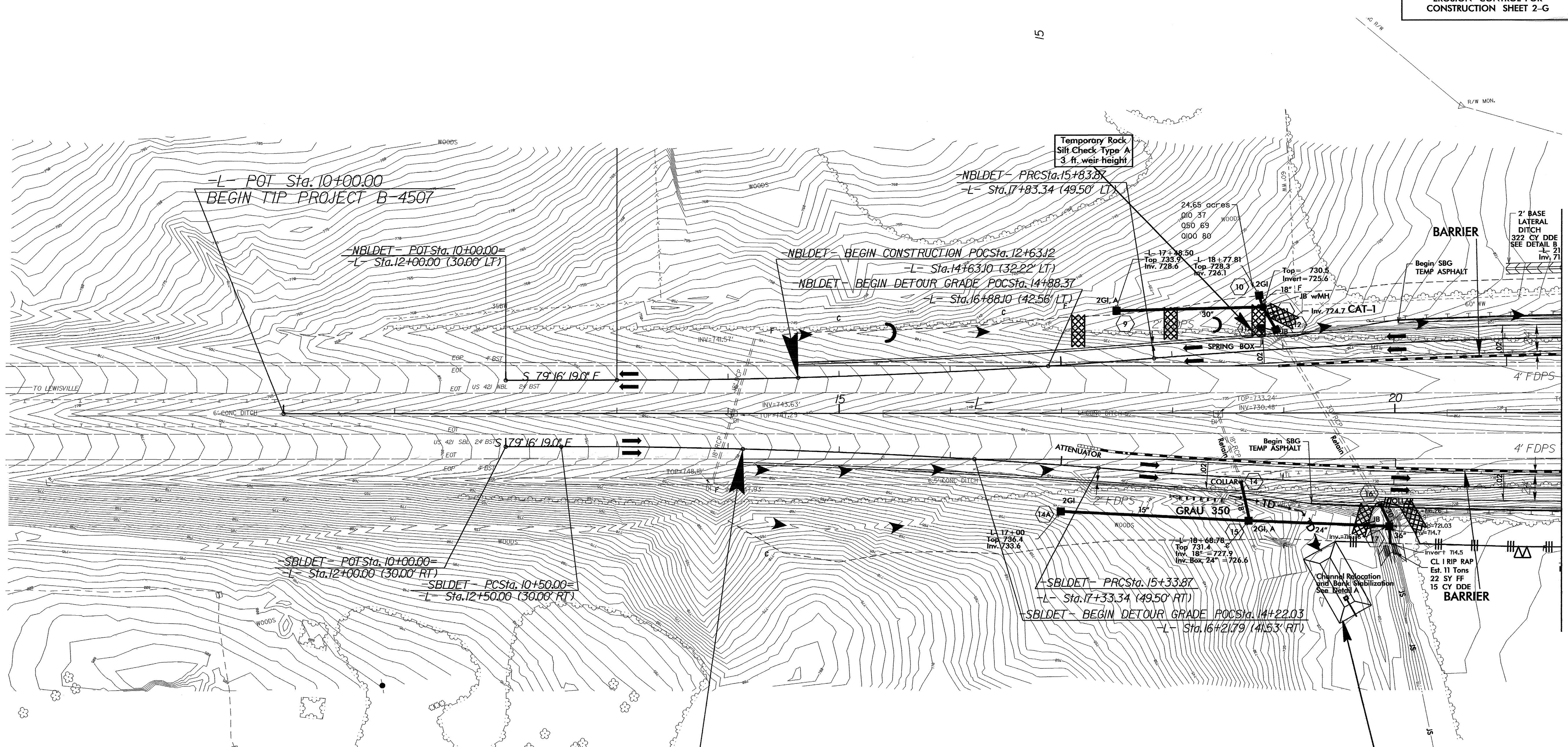




# DETOUR

PROJECT REFERENCE NO.	SHEET NO.
B-4507	EC-4/CONST.2-6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 2-G



REVISIONS

MATCH LINE SHEET 2-H -L- STA 21+50

NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

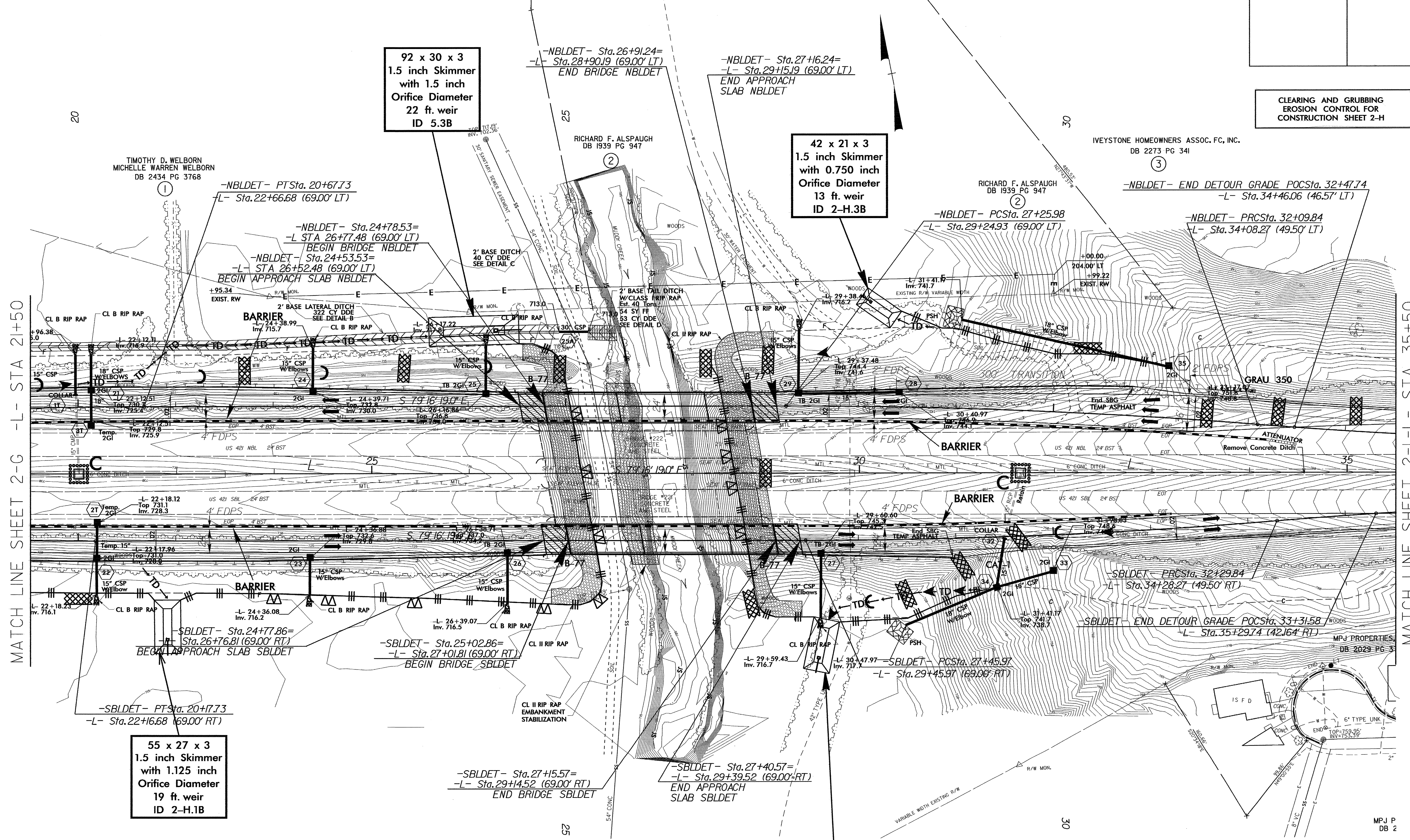
66 x 33 x 3  
1.5 inch Skimmer  
with 1.250 inch  
Orifice Diameter  
25 ft. weir  
ID 2-G.2B

8/17/99  
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# DETOUR

PROJECT REFERENCE NO. B-4507		SHEET NO. EC-5/CONST.2-H	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER			

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 2-H



MATCH LINE SHEET 2-G -L- STA 21+50

MATCH LINE SHEET 2-I-L- STA 35+50

REVISIONS

55 x 27 x 3  
1.5 inch Skimmer  
with 1.125 inch  
Orifice Diameter  
19 ft. weir  
ID 2-H.1B

54 x 27 x 3  
1.5 inch Skimmer  
with 1.125 inch  
Orifice Diameter  
19 ft. weir  
ID 2-H.2B

NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

NOTE:  
UTILIZE SKIMMER BASIN OR SPECIAL STILLING  
BASIN AS STILLING BASIN WHERE APPLICABLE.

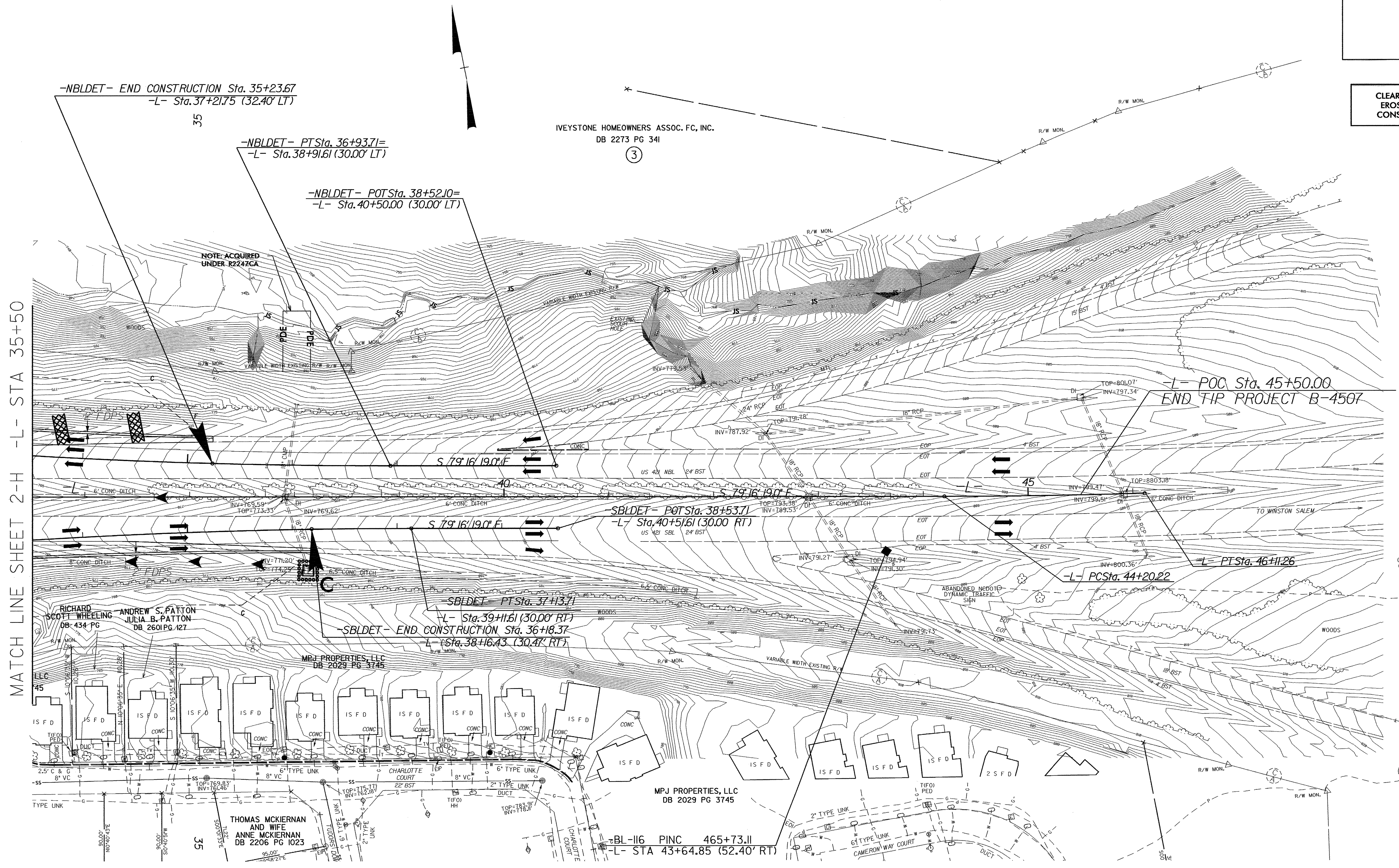
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MPJ P  
DB 2

# DETOUR

PROJECT REFERENCE NO.	SHEET NO.
B-4507	EC-6/CONST.2-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 2-1



MATCH LINE SHEET 2-H -L- STA 35+50

REVISIONS

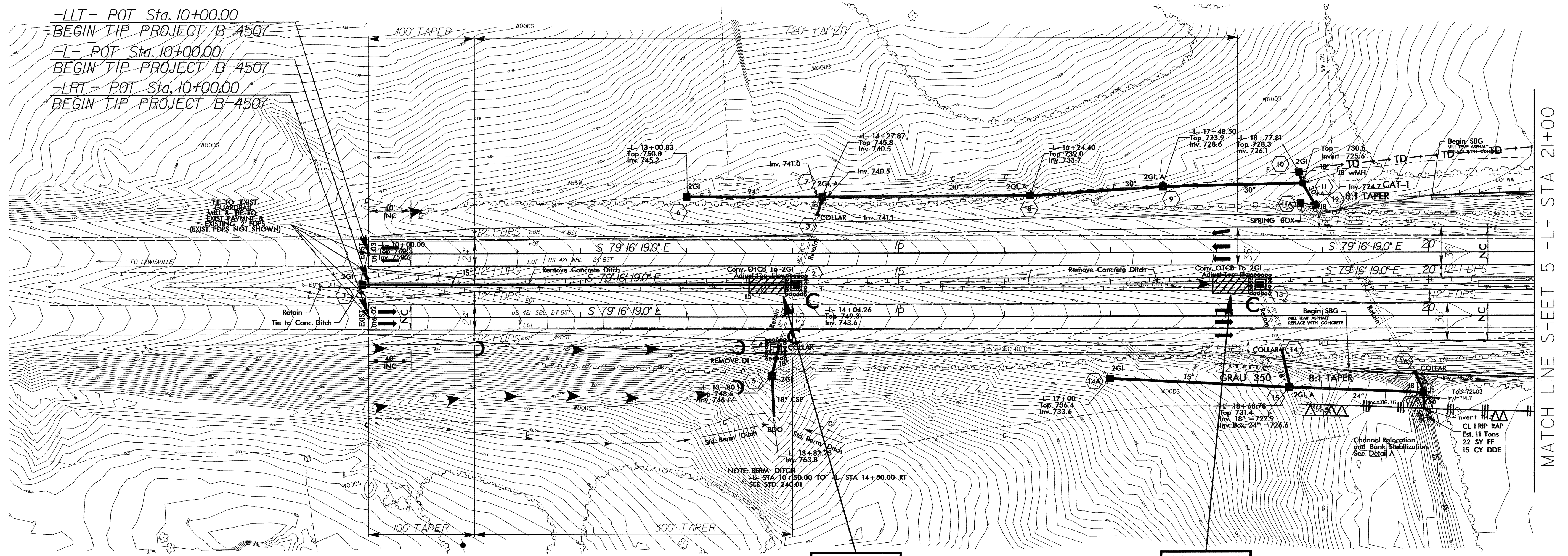
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REVISED BY: [unreadable]

NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

PROJECT REFERENCE NO.	SHEET NO.
B-4507	EC-7/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 4

15



-LLT- POT Sta. 10+00.00  
BEGIN TIP PROJECT B-4507  
-L- POT Sta. 10+00.00  
BEGIN TIP PROJECT B-4507  
-LRT- POT Sta. 10+00.00  
BEGIN TIP PROJECT B-4507

TIE TO EXIST.  
GUARDRAIL  
MIL & TIE TO  
EXIST. TAPERS &  
EXIST. FDPS  
(EXIST. FDPS NOT SHOWN)

NOTE: BERM DITCH  
- STA. 10+50.00 TO - STA 14+50.00 RT  
SEE STD. 240.01

NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

34 x 16 x 3  
ID 4.3B

34 x 17 x 3  
ID 4.8B

MATCH LINE SHEET 5 -L- STA 21+00

REVISIONS

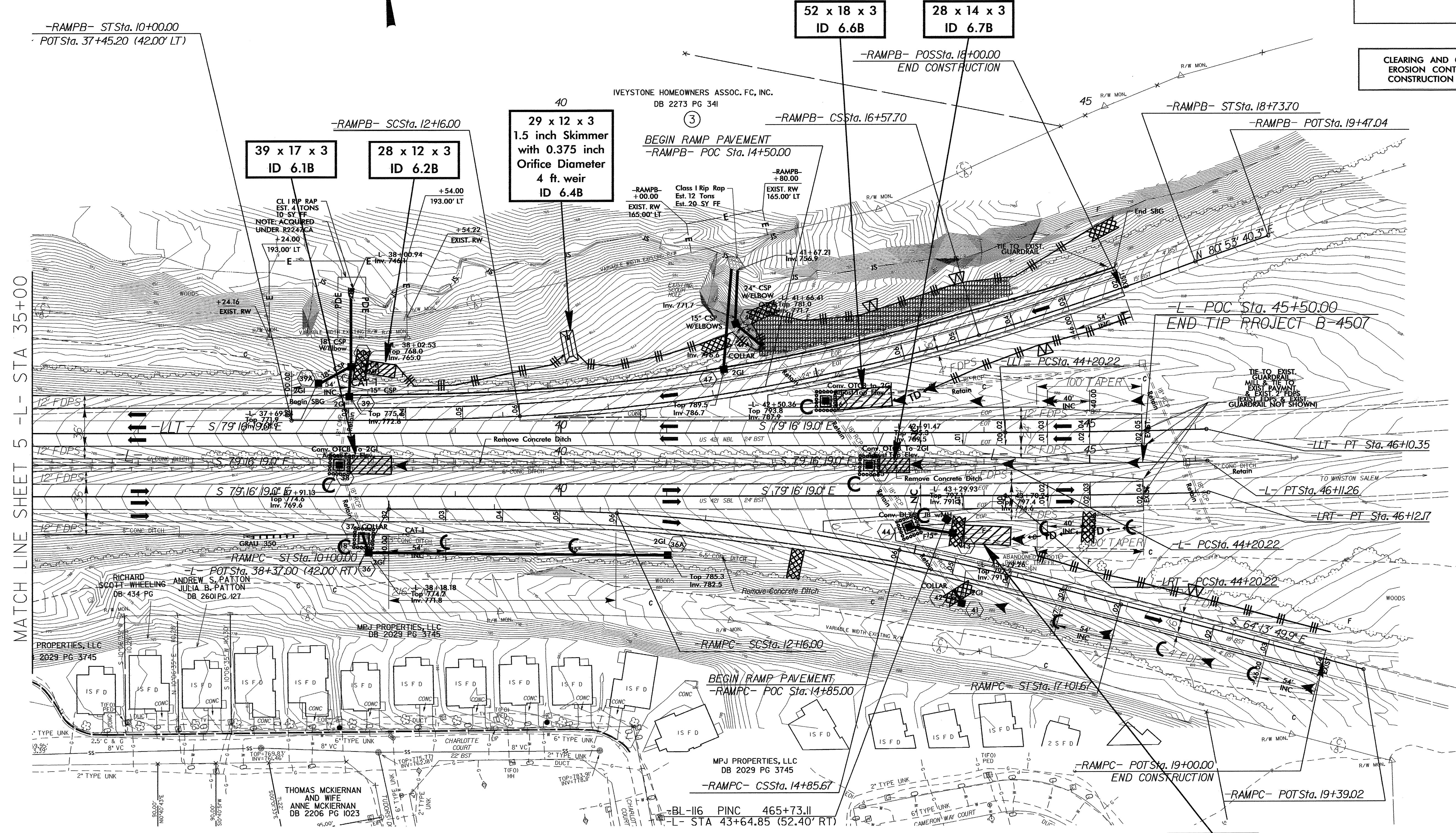
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PROJECT REFERENCE NO. B-4507	SHEET NO. EC-9/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 6



MATCH LINE SHEET 5 - L- STA 35+00

03/26/09 - R/W Revision: Added TCE around drainage pipe outlet at -RampPB- Sta. 14+40.00 LT. Added parcel number 3. A.I.F.

8/17/99

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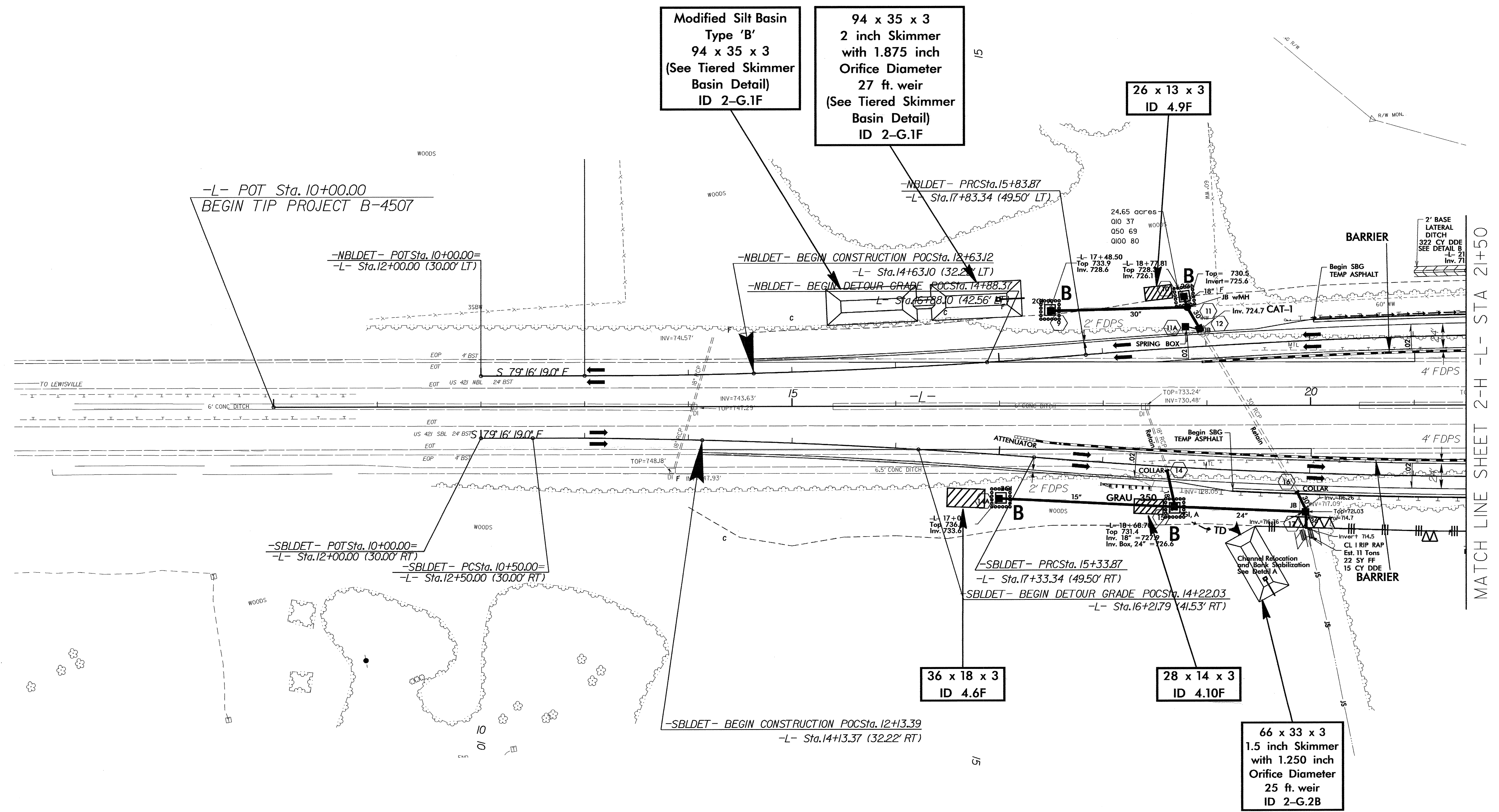
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ID 6.9B**

NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

NC DOT TRAFFIC  
CAMERA MOUNTED  
ON UTILITY POLE

# DETOUR

PROJECT REFERENCE NO.		SHEET NO.	
B-4507		EC-10/CONST.2-6	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

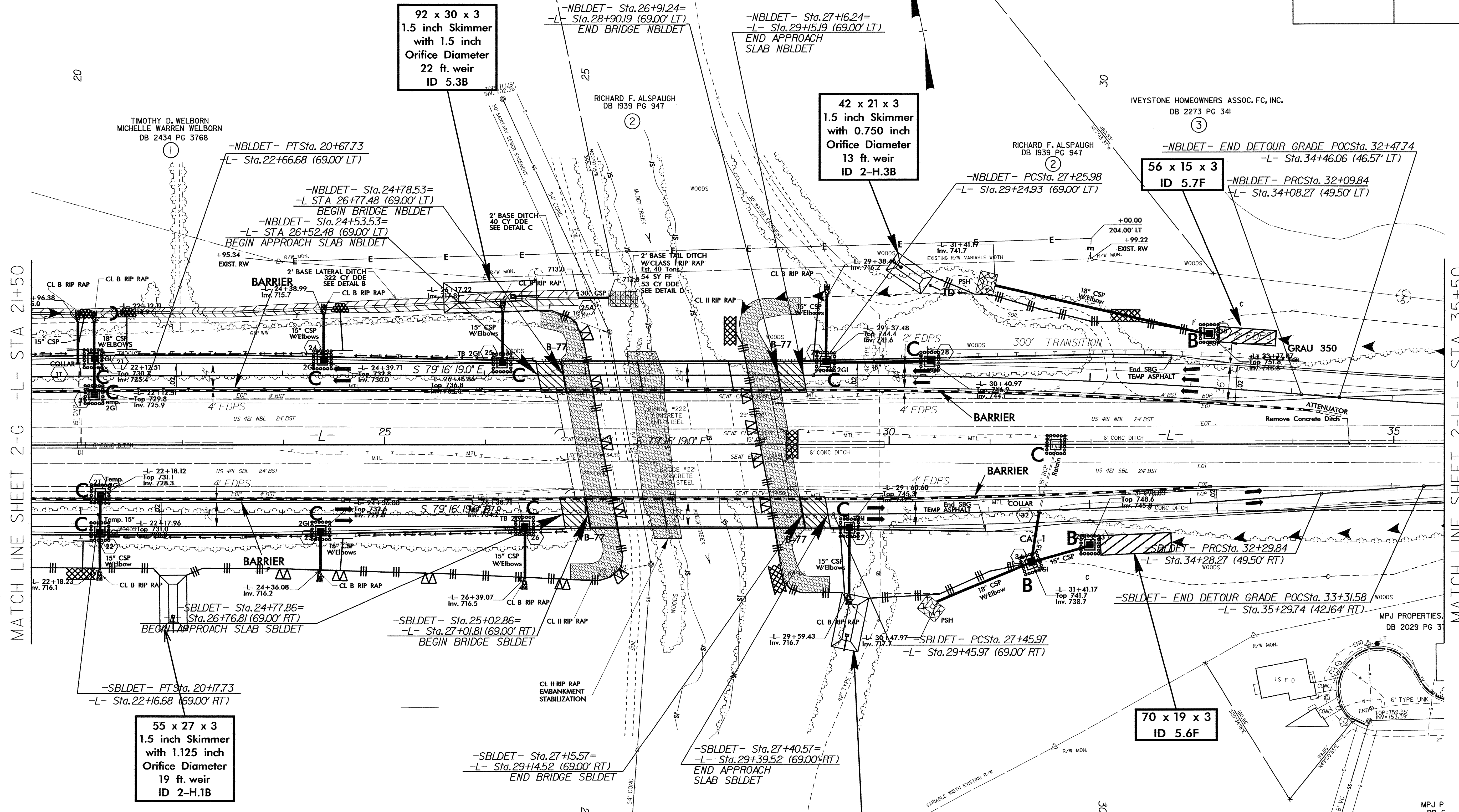


MATCH LINE SHEET 2-H - L - STA 21+50

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# DETOUR

PROJECT REFERENCE NO.	SHEET NO.
B-4507	EC-II/CONST.2-H
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



92 x 30 x 3  
1.5 inch Skimmer  
with 1.5 inch  
Orifice Diameter  
22 ft. weir  
ID 5.3B

42 x 21 x 3  
1.5 inch Skimmer  
with 0.750 inch  
Orifice Diameter  
13 ft. weir  
ID 2-H.3B

56 x 15 x 3  
ID 5.7F

55 x 27 x 3  
1.5 inch Skimmer  
with 1.125 inch  
Orifice Diameter  
19 ft. weir  
ID 2-H.1B

54 x 27 x 3  
1.5 inch Skimmer  
with 1.125 inch  
Orifice Diameter  
19 ft. weir  
ID 2-H.2B

70 x 19 x 3  
ID 5.6F

NOTE:  
UTILIZE SKIMMER BASIN OR SPECIAL STILLING  
BASIN AS STILLING BASIN WHERE APPLICABLE.

REVISIONS

MATCH LINE SHEET 2-G -L- STA 21+50

MATCH LINE SHEET 2-I-L- STA 35+50

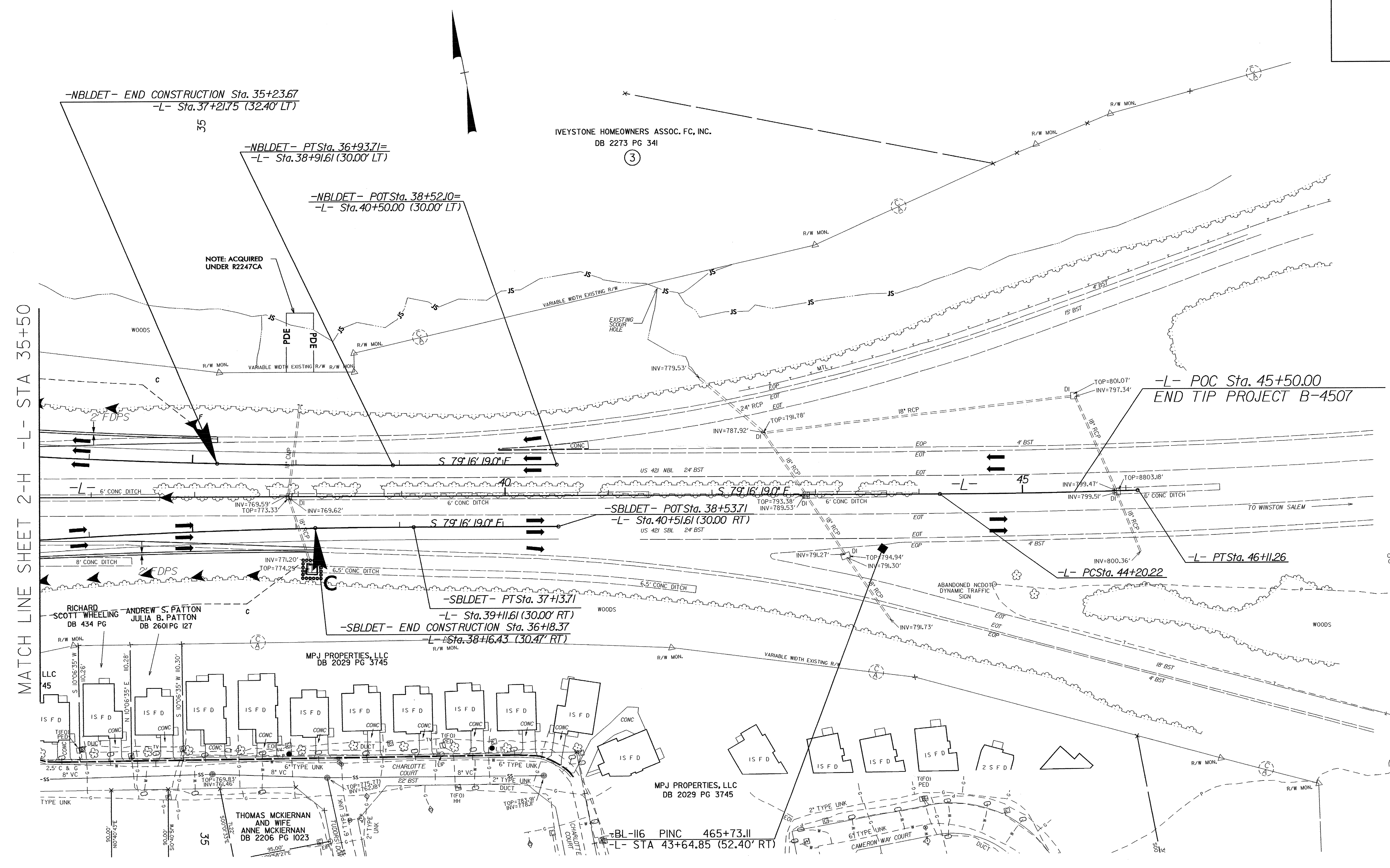
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# DETOUR

PROJECT REFERENCE NO. B-4507	SHEET NO. EC-12/CONST.2-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99  
 REVISIONS  
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 20090617 11:21:18



MATCH LINE SHEET 2-H -L- STA 35+50

-L- POC Sta. 45+50.00  
END TIP PROJECT B-4507

-L- PTSta. 46+11.26

-L- STA 43+64.85 (52.40' RT)

-NBLDET- PTSta. 36+93.71=  
-L- Sta. 38+91.61 (30.00' LT)

-NBLDET- POTSta. 38+52.10=  
-L- Sta. 40+50.00 (30.00' LT)

-SBLDET- POTSta. 38+53.71  
-L- Sta. 40+51.61 (30.00' RT)

-SBLDET- PTSta. 37+13.71  
-L- Sta. 39+11.61 (30.00' RT)

-SBLDET- END CONSTRUCTION Sta. 36+18.37  
-L- Sta. 38+16.43 (30.47' RT)

-NBLDET- END CONSTRUCTION Sta. 35+23.67  
-L- Sta. 37+21.75 (32.40' LT)

NOTE: ACQUIRED UNDER R2247CA

RICHARD SCOTT WHEELING  
DB 434 PG

ANDREW S. PATTON  
JULIA B. PATTON  
DB 2601 PG 127

MPJ PROPERTIES, LLC  
DB 2029 PG 3745

THOMAS MCKIERNAN  
AND WIFE  
ANNE MCKIERNAN  
DB 2206 PG 1023

MPJ PROPERTIES, LLC  
DB 2029 PG 3745

-BL-116 PINC 465+73.11

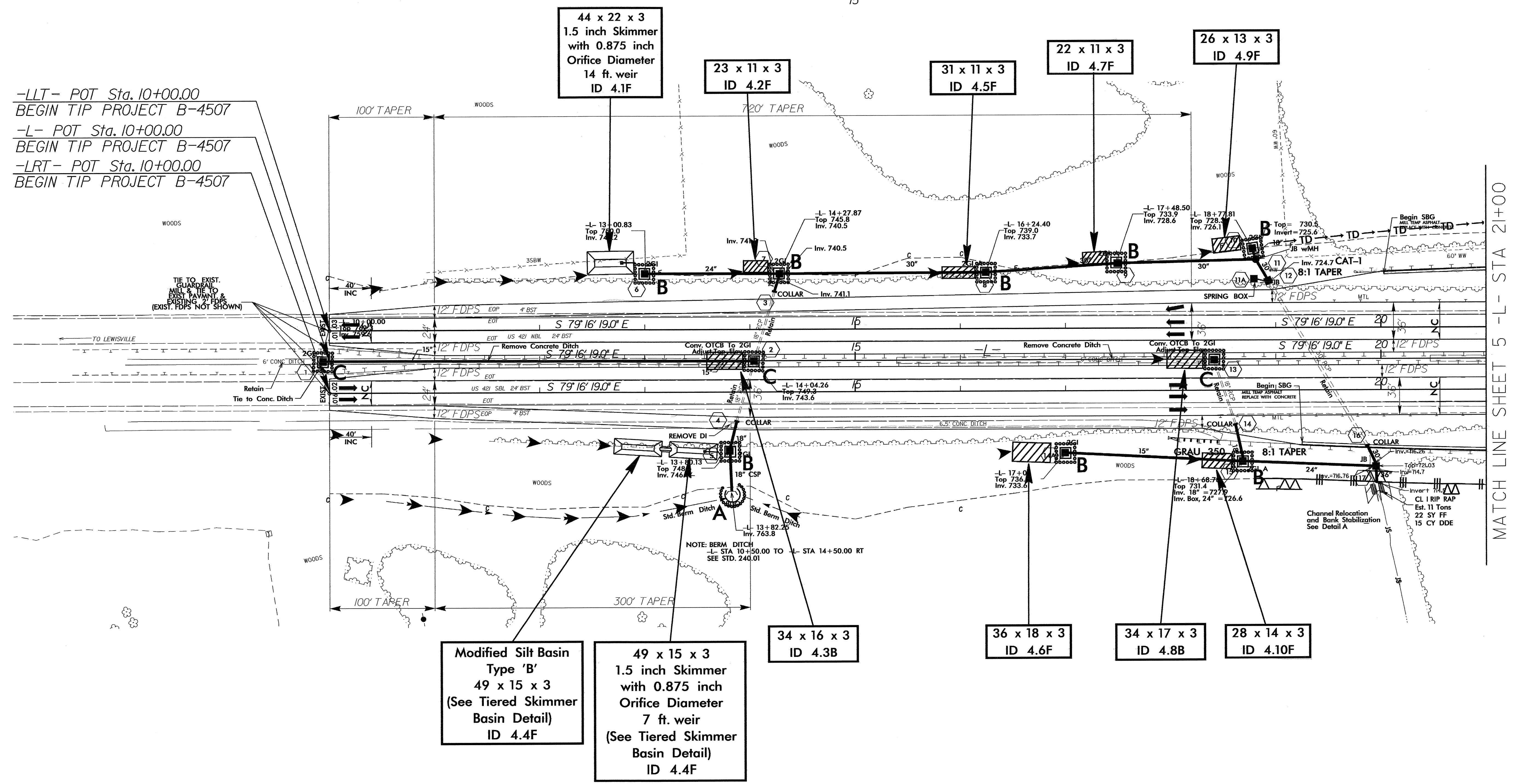
NCDOT TRAFFIC CAMERA MOUNTED ON UTILITY POLE

PROJECT REFERENCE NO.	SHEET NO.
B-4507	EC-13/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99

REVISIONS

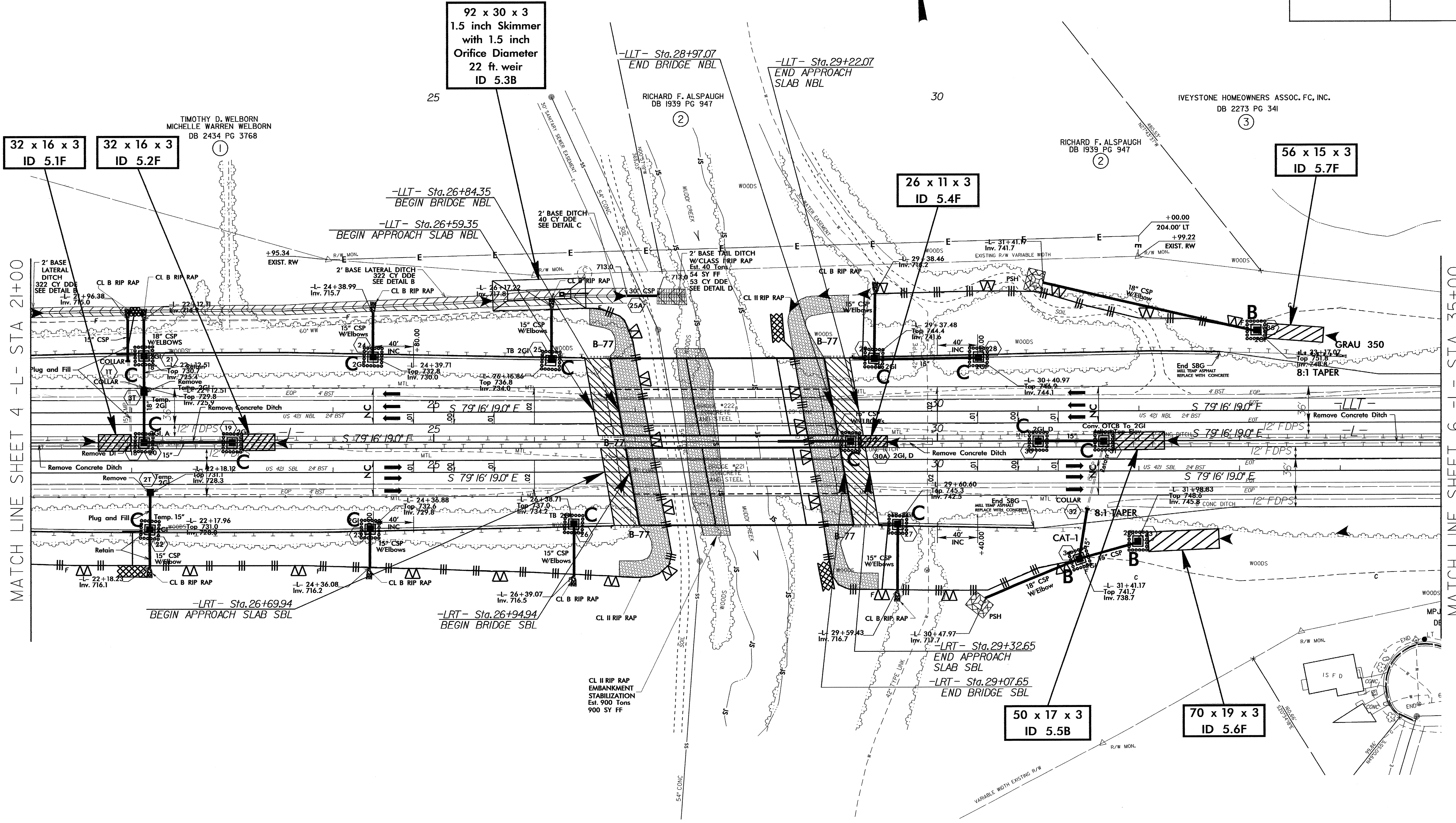
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 -L- POT Sta. 10+00.00  
 BEGIN TIP PROJECT B-4507  
 -LRT- POT Sta. 10+00.00  
 BEGIN TIP PROJECT B-4507



02-JUN-2009 10:08  
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 AT: 11:22:51

MATCH LINE SHEET 5 - L- STA 21+00

PROJECT REFERENCE NO.	SHEET NO.
B-4507	EC-14/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCH LINE SHEET 4 - L- STA 21+00

MATCH LINE SHEET 6 - L- STA 35+00

**92 x 30 x 3  
1.5 inch Skimmer  
with 1.5 inch  
Orifice Diameter  
22 ft. weir  
ID 5.3B**

**32 x 16 x 3  
ID 5.1F**

**32 x 16 x 3  
ID 5.2F**

**26 x 11 x 3  
ID 5.4F**

**56 x 15 x 3  
ID 5.7F**

**50 x 17 x 3  
ID 5.5B**

**70 x 19 x 3  
ID 5.6F**

**NOTE:**  
UTILIZE SKIMMER BASIN OR SPECIAL STILLING  
BASIN AS STILLING BASIN WHERE APPLICABLE.

REVISIONS  
03/26/09 - R/W Revisions: Added TCE from -L- Sta. 23+95.34 LT to -L- Sta. 32+00.00 LT. Added parcel numbers 1, 2, and 3. A.J.F.

02-JUN-2009 10:10  
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ajf

8/17/09

